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1909

# MANUAL

*for*

## COUNTY INSTITUTES

*JUNE, 1909*

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*Issued by the*

DEPARTMENT OF EDUCATION

LITTLE ROCK, ARKANSAS

GEO. B. COOK, Superintendent



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JANUARY							FEBRUARY							MARCH						
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17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
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## THE FUNCTION OF AN INSTITUTE

It might be well to give very briefly the real function and purpose of an Institute. Too frequently it is considered as a time for study and preparation with a view to examination. Some have regarded institute week as one to be given solely to social pleasure and recreation. How to make the institute helpful, profitable and interesting to all is, indeed, a difficult problem. It should be borne in mind that the true function of institute work is to better prepare teachers for teaching. It should be a source of inspiration and zeal for greater work. The contact of mind with mind, of spirit with spirit, should bring encouragement, strength and help.

The State Superintendent of Indiana has set forth the following work that should be accomplished in an Institute: "First, it should bring inspiration to the teachers. It should furnish higher ideals and more hopeful views of life. This must come largely from the personality of the instructors employed. Second, it should bring larger professional zeal. It should furnish higher professional ideas and a larger, profounder belief in the calling. This must come from the professional attitude of the instructors. Third, it should bring practical solutions to the everyday problems of teaching. It should furnish the best way to teach, based upon pedagogical principles. This must come from the scholarship and professional training of the instructors. Fourth, it should bring a week of happy social life, with a renewal of friendship, and the acquisition of new friends. This must come from the superintendent, the community and the teachers themselves." These are possible accomplishments. Let us hope that these may be the distinctive features of the Institutes this year.

# ARKANSAS TEACHERS' READING CIRCLE

BY DR. W. S. JOHNSON, PRESIDENT.

Are you a member of the A. T. R. C.? If not, why not? The Reading Circle is now in its fourth year, and at the next Christmas meeting of the State Teachers' Association we will have our first graduating class. Will you be one of that number? If not, then, why not join now and in four years you will be one of the number; and besides you will be all the better prepared for your duties as a teacher. Ask those who have been taking the course regularly if they do not think that it is well worth doing. It costs only 25 cents a year for membership and we get enough discount on the two books that you are required to purchase to offset the membership fee. If you wish to join with over two thousand other progressive teachers in the State, then give your membership fee to your County Examiner or, if not convenient, send it to the President, Dr. W. S. Johnson, Fayetteville, Ark., and you will receive your membership card, with other information concerning the course of study, etc. Remember, please, that you are holding a responsible position, for the character of the future citizenship of this State rests largely with you and your associates. Hence, it behooves you to make the best preparation possible, so that you may perform this duty in the most intelligent way.

## COURSE OF READING

	List Price	Single Copies	Five or More
<b>I. PROFESSIONAL</b>			
1. Dinsmore's Teaching a District School.....	\$1.00	90c	80c
American Book Co., Cincinnati, O.			
2. Kern's Among Country Schools.....	1.25	1.12	1.00
Ginn & Co., Chicago, Ill.			
3. Scott's Social Education.....	1.25	1.12	1.00
Ginn & Co., Chicago, Ill.			
4. Monroe's Brief History of Education.....	1.25	1.12	1.00
The MacMillan Co., New York.			
<b>II. CULTURE</b>			
1. Cheyney's A Short History of England.....	\$1.40	\$1.26	\$1.12
Ginn & Co., Chicago, Ill.			
2. Ferguson-Lewis' Elementary Principles of Agriculture.....	1.00	75c	65c
Ferguson Pub. Co., Sherman, Texas.			
3. Lamont's English Composition.....	1.00	90c	80c
Charles Scribner's Sons, New York City.			
4. (a) Goldsmith's Vicar of Wakefield.....	30c	27c	24c
Charles E. Merrill Co., New York City.			
(b) Painter's Poets of the South.....	60c	54c	48c
American Book Co., Cincinnati, O.			

## SCHOOL IMPROVEMENT ASSOCIATION

The attention of all teachers is especially called to the advantages of a School Improvement Association in connection with *your* school. Through the S. I. A. the patrons and teacher are brought together on a co-operative basis of mutual understanding that can not be effected in any other way. The interest of the pupils can be awakened and sustained very effectively by means of the Student's Auxiliary.

Thousands of teachers have signed the following pledge and the results are forming an abundant harvest of good for the public schools in rural, as well as, urban communities:

"I pledge to do all possible for the HEALTH,  
COMFORT, BEAUTY, AND ATTRACTIVE-  
NESS of my school, and to organize a school im-  
provement association in my school community."

Signed.....

PROCURE AND READ A COPY OF THE "YEAR BOOK ON SCHOOL  
IMPROVEMENT IN ARKANSAS."

(These books will be furnished free upon application to your County Examiner or State Superintendent, Geo. B. Cook.)

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## NATIONAL EDUCATION ASSOCIATION

DENVER COLORADO, JULY 3 to 9, 1909

THE TEACHER'S GREATEST OPPORTUNITY  
FOR PROFIT AND PLEASURE

The Forty-Seventh Annual Convention of the National Education Association at Denver this year, July 3th to 9rd, will be the greatest convention in the history of the association.

The meeting place is unusually convenient for teachers in Arkansas. The convention city, Denver, with the delightful side trips that will be presented; the opportunity for a summer vacation and recreation amid the many grand and charming scenes and the genial summer clime of Colorado and the great Northwest are standing inducements that annually attract many of our teachers.

Add to the constant attractions and pleasures of a western summer trip the exceptional, educational and professional advantages of attending the greatest Educational Convention!

*Railroad rates are extremely reasonable.*

Tickets good from June 1st until October 31st.

EVERY TEACHER IN ARKANSAS WOULD BE GREATLY PROFITED  
BY THIS TRIP.

For advance programs and all detailed information, address:

Arkansas Committee N. E. A.,

Supt. Junius Jordan, Pine Bluff.

Supt. B. W. Torreyson, Little Rock.

Supt. J. W. Kuykendall, Fort Smith.

Supt. E. A. Brennan, Texarkana.

State Supt., Geo. B. Cook., State Manager N. E. A.



## INTRODUCTORY

### *To the Teachers of Arkansas, Greeting:*

In presenting the outlines contained in the present Manual, it is with the hope and belief that the work as outlined herein will prove interesting and helpful. The Manuals, it is hoped, will be placed in the hands of the teachers before the opening day of the Institute as far as possible, and every teacher is urged to make a careful study of the same. Much better results will be had if the work is thus carefully prepared beforehand by the teachers whether you are called upon to assist in the work of instruction or not. The success or failure of the Institute will rest ultimately with the teachers in attendance. In fact, you may be able by a word of invitation to assist in securing the attendance of those who might not otherwise attend. Remember, that as an integral part of the Institute, you can render no greater service than that of giving it your hearty sympathy and co-operation.

It is suggested that note books be provided for the teachers for use during the Institute, and it might be well for the County Examiner to collect these at the close of the Institute for inspection.

It is recommended that the Manuals be kept for ready reference in the future, as the outlines will be the basis for questions for examinations from time to time. They should constantly be in the hands of the teachers during the Institute.

The Department of Education desires to express its sincere thanks and appreciation to those who have so heartily co-operated and aided in the work of preparing the outlines for the Manuals. The names of those who have thus generously contributed in this work are given in connection with the headings of the different subjects.

It is earnestly hoped that, as a result of the work of the Institutes this year, the teachers of the State may be aroused to higher ideals and greater enthusiasm in their work.



## PROGRAM

Opening Exercises.....	8:30 to 8:45
Theory and Practice.....	8:45 to 9:15
Arithmetic .....	9:15 to 9:45
Civil Government.....	9:45 to 10:15

### Recess.

Penmanship .....	10:30 to 11:00
Grammar .....	11:00 to 11:30
Geography .....	11:30 to 12:00

### Intermission.

Reading .....	1:00 to 1:30
Arkansas History.....	1:30 to 2:00
United States History. ....	2:00 to 2:30

### Recess.

Orthography .....	2:45 to 3:15
Physiology .....	3:15 to 3:45
Algebra .....	3:45 to 4:15
Miscellaneous .....	4:15 to 4:30

## THEORY AND PRACTICE

By Dr. Reuben Post Halleck, author of Halleck's Psychology and Psychic Culture.

(These questions are based upon Halleck's Psychology. Full information on the topics for each day can be secured by studying the chapters indicated at the beginning of the outline for each day. Ten of these questions will be selected for the June examination.)

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### FIRST DAY.

Chapters I to IV, Inclusive.

#### QUESTIONS.

1. Why is the study of Psychology important for the teacher?
2. What shows that the mind is dependent upon the nervous system?
3. Draw a diagram showing in the rough the principal sensory and motor localizations.
4. State the relations between age and brain growth.
5. Why is one impressed with the unity of the mind from studying the sense of sight?
6. Describe "Reaction Time."
7. What is the distinction between "subjective" and "objective"?
8. Show why mental objects must precede all material invention.
9. How and why would you classify the different mental states?
10. Give the most important laws of attention.
11. Why does attention develop interest?
12. Prove that the simplest knowledge is the result of complex processes.
13. Define a sensation and distinguish it from a perception.

14. What are the conditions and limits of sensation?
15. Show how perception constructs a field of vision.
16. Show that reasoning is involved in perception.
17. Define and illustrate Transferred Perception.
18. Define and illustrate apperception.
19. Define the different types of illusion.
20. Show that keen perceptive faculties are necessary for either success or enjoyment.
21. What was 'Agazzi's method of cultivating perception?
22. Mention some methods for cultivating rapidity of perception.

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## SECOND DAY.

### Chapters V and VI.

23. Show the relation of memory to perception.
24. How many different kinds of memory may one have of an object like a watermelon?
25. Give and illustrate the primary law of association.
26. Define the secondary laws of association and show the difference between them and primary laws.
27. Define and illustrate the law of correlation.
28. Define and illustrate the influence of the law of repetition on association.
29. Define and illustrate the influence of the law of emotional preference on association.
30. Define and illustrate the law of voluntary attention on association.
31. Give the physiological side of the basis of memory.
32. Give the section: "The formation of a clear-cut image."
33. Illustrate the use of the law of contiguity in the cultivation of memory.
34. Illustrate the use of each one of the secondary laws of association in the cultivation of memory.

### THIRD DAY.

#### Chapter VII.

35. Define imagination.
36. Show that there is no absolute dividing line between the images of memory and of imagination.
37. Explain "Dissociation."
38. Describe and illustrate the six different products of the imagination.
39. Describe the work of the constructive imagination.
40. Show the limits of imagination.
41. Show that the direction of imagination must be determined by the dominant perceptions.
42. Why is the imagination necessary in scientific investigation?
43. State the influence of the imagination on the body?
44. Why is the imagination a practical power?
45. Where shall we find the materials for cultivating imagination?
46. Why are clear-cut images necessary for imaginative culture?
47. Show how the imagination may be cultivated by oral description.
48. Show how the constructive imagination may be cultivated by writing.
49. Show the comparative value of following another's imagination and of constructing original images.
50. State what is meant in thinking by images.
51. How is imagination used in the formation of ideals.
52. How is imagination related to sympathy?
53. How may the imagination be abused?

#### FOURTH DAY.

#### Chapters VIII, IX and X.

54. Prove that the thinking power is active with the first perceptions.
55. Show how a concept is formed.
56. Explain the imperfect way of forming concepts in actual life.
57. What is the difference between a concept and an image?
58. What are abstract ideas?
59. Explain and illustrate "judgment."
60. Show why judgments are often difficult to form.
61. Define and explain reasoning.
62. Define and explain inductive reasoning.
63. Define and explain deductive reasoning.
64. Give and explain the primary laws of thought.
65. Define and explain "associational reasoning."
66. Explain the higher type of reasoning and distinguish it from associational reasoning.
67. Why is thought culture a study of relations?
68. What has accuracy in forming concepts to do with thought culture?
69. How does classification aid in thought culture?
70. How does the search for analysis aid in thought culture?
71. What is the effect of novel reading on thought?
72. How may fiction serve to cultivate thought?
73. What is the influence of thought culture on character?
74. What is the best time for the different varieties of thought culture?
75. Define feeling and show its importance.
76. What is the relation of nervous action to pleasure and pain?
77. Contrast sense feelings and ideal feelings.

78. Show how waves of bodily feeling are important factors in emotion.
79. State what is meant by expression of emotion.
80. Show how emotion may be produced by bodily expression.
81. Give the scheme of classification of the emotions.
82. What are the conditions of sympathetic emotion?
83. Explain what is meant by intellectual emotion?
84. Explain æsthetic emotion.
85. Explain moral emotion.
86. Give the factors determining the rise and the decline of emotion.
87. What ideas are best fitted to raise emotion?
88. What is said of the emotions and health?

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#### FIFTH DAY.

#### Chapter XI to end of Book.

89. What is said of the cultivation of emotion by the repression of its muscular expression?
90. How may the attractive and moral emotions be cultivated?
91. State how you would cultivate the æsthetic appreciation of children.
92. What are the different types of action?
93. How are higher voluntary processes marked off from actions of a lower order?
94. How may higher voluntary movement be started?
95. Explain the motor aspect of ideas, muscle reading and suggestion.
96. Using the illustration of selecting a summer resort, show all the processes in an act of completed will.
97. Define inhibition and show how it is conditioned.

98. Give the rules to be applied in the formation of a new habit.

99. What is the effect on the will of feeling and decision without action?

100. What is meant by tempering the will along the line of the greatest resistance?



## ARITHMETIC

By J. D. Clary, Principal Clary-Banks School, Fordyce.

(Emphasize the importance of this subject, but do not exaggerate it so as to deprive other subjects of due attention.)

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### FIRST DAY.

#### Primary Methods.

(Review—Notation and Numeration and the Fundamental Operations.)

Counting, reading and writing numbers; Roman numerals to XII; signs  $+$ ,  $-$  and  $=$ ; recognizing groups at sight.

Combinations; small fractions; practical knowledge of some simple measures, as foot, pint, dime; making change.

Addition (practice in rapid); subtraction; such examples as 23, 33, 43, 63, etc.,  $+$ ,  $-$  7 etc.; method suggested,

$$\begin{array}{r} 724 \\ 138 \\ \hline \end{array}$$

$$586$$

8 and 6, 14; 4 and 8, 12; 2 and 5, 7; omit "borrowing."

Multiplication and division to  $12 \times 12$ ; much drill; fractions with 1 as numerator subtracted from integers.

Best process for such problems as: If 5 apples cost 10 cents, find cost of 15 apples. Drill on correct analysis.

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### SECOND DAY.

#### Intermediate Methods.

(Review—Properties of Numbers, Fractions, Decimals and Denominate Numbers.)

Long division; factoring; cancellation; simple business forms. Require correct statements.

Fractions; definitions; processes; G. C. D. and L. C. M. are only means to an end; glib recitation of rules is not knowledge.

Decimals; writing, reading, reduction; multiplication or division by 10; "pointing off" may be discovered; U. S. money.

Denominate numbers; awaken interest by giving history and origin of tables; drill on processes; commercial papers.

Ratio; relation to division, to fractions.

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### THIRD DAY.

#### Intermediate Methods.

(Review—Longitude and Time, Proportion, Equations and Percentage.)

Longitude and time; study date line, standard time, meridians; practical examples; insist on correct statements.

Proportion; teach so that it may contribute to thought power, not "by rule."

Percentage; terms used; units; form and learn table of equivalents, as  $\frac{1}{3} = .33\frac{1}{3} = 33\frac{1}{3}$  per cent; rapid oral drill in use of table.

Introduce equations to solve by algebra many of the problems of percentage; teach principles not "cases."

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### FOURTH DAY.

#### Grammar Methods.

(Review—Interest, Mercantile Transactions, Square Root, Cube Root, Mensuration.)

Applications of percentage; let all contribute to accurate reasoning.

Interest; do not confuse by too many methods; in written work save much by cancellation; give practical examples.

Mercantile transactions; write notes, checks, etc., make bills, compute interest from examples from life.

Indorse partial payments on note, set time for payment, solve.

Analyze examples for finding rate, time, principal; develop thought power; do not do the thinking for the class.

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### **FIFTH DAY.**

#### General Discussion.

Why do we teach arithmetic? It trains reasoning faculties, attention, fits for business, etc.

Which chapters are most valuable for culture?

What topics should be omitted for short terms?

When should the text-book be introduced?

What should a pupil have acquired at the end of fourth grade?

The first years should teach the pupil to be expert in operations rather than to know the science of arithmetic.

Measures are best learned by being in hand.

Let every principle have an illustration.

Greater stress and fewer topics may often be desirable.

Adapt practical examples to local conditions.

Processes not ends in themselves should be taught in connection with subjects they introduce.

Do not give pupils books at recitation.

Demand reasons. Give oral work each day.

Let amount of written work increase in upper grades.

Too great brevity may obscure the knowledge of processes.

Seek not "short cuts" but knowledge.

Some errors:

6 and 4 are 10, and 3 are 13, etc

\$.68 cents

at .50 cents

$4 \times .50 = \$2$

$75^\circ \div 15 = 5$  hrs.

$60 \text{ ft.} \times 1 \text{ ft.} \times 6 \text{ in.} = 30 \text{ ft. B. M.}$

$3 \times 5 + 6 = 33$

$4 \times 6 = 24 \div 2$ , etc.

$360^\circ = 24$  hours.

$\frac{3}{4} = \$60$

$40\% = 80$  and extend these.

Our duty not to teach arithmetic in the abstract, but to teach *these pupils* arithmetic in the concrete. First the *pupil*, not the subject nor the text-book.

Suggestion for the teacher: Read a good text on the teaching of elementary mathematics.

## CIVIL GOVERNMENT

By C. L. O'Daniel, Principal Centennial School, Little Rock.

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### FIRST DAY.

#### *General.*

Nation; State; Monarchy; Aristocracy; Despotism; Democracy; Republic; Sovereignty; Constitution; Law; Common Law; Statute; Illustration of each.

#### *United States Government.*

##### (a)—Origin.

New England Confederation; Franklin Plan; Authority of the Continental Congresses; Articles of Confederation.

##### (b) Development.

Constitution of United States; Necessity; Formation; Power in the Constitution; Co-ordinate Powers; Bill of Rights; Political Rights; Citizenship; Amending Clause; History of Amendments; Admission of States; Creation of Territories; Historical Precedents.

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### SECOND DAY.

#### *United States Government.*

##### I. Executive Department.

- (1) Organization.
- (2) Qualifications.
- (3) General Powers.
- (4) Special Powers.
- (5) Veto.
- (6) Cabinet.
- (7) Powers and Duties of the Cabinet.

- (8) Names of Cabinet Officers.
- (9) Old Presidential Succession Law.
- (10) New Presidential Succession Law.
- (11) Vice President and Duties.
- (12) Minor Executive Officers.
- (13) Relation to other Departments of Government.
- (14) Manner of Election by Constitution and by President Method.
- (15) Salary and Maintenance.
- (16) Comparison with England and France.

## 2. Legislative Department.

### (a) Senate:

- (1) Meaning of Term.
- (2) Struggle between Large States and Small States.
- (3) Qualification.
- (4) Number.
- (5) Term.
- (6) Election.
- (7) Popular Election.
- (8) Organization of Body.
- (9) Special Powers.
- (10) Special Privileges.
- (11) Salary and Maintenance.
- (12) Historical Precedents.

### (b) House of Representatives:

- (1) Meaning of Term.
- (2) Basis of Representation.
- (3) Qualifications.
- (4) Number.
- (5) Term.
- (6) Manner of Election.
- (7) Organization.

- (8) Special Powers.
  - (9) Special Privileges.
  - (10) Salary and Maintenance.
  - (11) Checks and Balances between both Houses.
  - (12) Historical Precedents.
- (c) Legislation:
- (1) Trace a Bill from the point of introduction to its becoming a law with approval of Executive.
  - (2) Likewise, without approval of Executive.

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**THIRD DAY.**

3. Judicial Department.

(a) Supreme Court:

- (1) Organization.
- (2) Original Jurisdiction.
- (3) Appellate Jurisdiction.
- (4) Number of Judges.
- (5) Selection.
- (6) Qualification.
- (7) Term of Office.
- (8) Salary.
- (9) Present Judges.
- (10) Great Jurists.

(b) Circuit Courts:

- (1) Organization.
- (2) Jurisdiction.
- (3) Number of Circuits.
- (4) Relation to Supreme Court.
- (5) Selection of Judges.
- (6) Term of Office.
- (7) Salaries.



- (c) District Courts:
  - (1) Organization.
  - (2) Jurisdiction.
  - (3) Selection of Judges.
  - (4) Term of Office.
  - (5) Salaries.
- (d) Circuit Court of Appeals:
  - (1) Organization.
  - (2) Relation to other Federal Courts.

*Political Parties.*

- 1. General.
  - (a) Necessity. (b) Use or Benefit. (c) Evils.
- 2. Historical Study:
  - (1) Date.
  - (2) Organization.
  - (3) Leading Doctrines.
  - (4) Great Leaders of These Parties:

Federalist, Anti-Federalist, Democrat-Republican, Democrat, Whig, Liberty, Free Soilers, Republican, American, Constitutional Union, Liberal Republican, Greenback, People's Party, Prohibitionist, Socialist.

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**FOURTH DAY.**

*State Government.*

- 1. Comparison with United States. As to departments; powers; constitution; rights; amendments, etc.
- 2. Executive Department.
  - (1) Term.
  - (2) Salary.
  - (3) Election.
  - (4) General powers.

- (5) Special Powers.
- (6) Privileges of the following :
  - (1) Governor.
  - (2) Secretary of State.
  - (3) State Treasurer.
  - (4) State Auditor.
  - (5) Commissioner of Mines, Manufactures, Agriculture.
  - (6) State Land Commissioner.
  - (7) Attorney General.
  - (8) State Superintendent of Public Instruction.
  - (9) Railroad Commissioners.

### 3. Legislative Department.

#### 1. Senate :

Number, Term, Distribution, Organization, Officers, Powers, Privileges.

#### 2. House of Representatives :

Number, Term, Distribution, Organization, Officers, Powers, Privileges.

#### 3. Explain fully legislative process.

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## FIFTH DAY.

### 4. Judicial Department.

#### 1. Supreme Court :

Judges, Number, Title, Term, Salary, Powers, Privileges, Officers, Personnel.

#### 2. Circuit Courts :

Number, Organization, Counties in local circuit, Salary, Officers.

#### 3. Chancery Courts :

Same as Circuit Courts.

5. Local Government :

(1) Origin of County and Township.

(2) Powers and Duties of the following officers :

Sheriff, County and Probate Judge, County, Circuit and Chancery Clerks, Treasurer, etc.

(3) County Court.

(4) Probate Court.

(5) Justice of Peace.

Number, Power, Jurisdiction.

(6) Constable.

## PENMANSHIP

By S. S. Waters, Superintendent of Schools, Conway.

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### FIRST DAY.

1. Importance of the first two years in securing good penmanship.
2. Vital points—Correct position at desk and correct method of holding the pen.
3. Writing in connection with other school subjects.
4. Blackboard work to develop freedom.
5. Correct formation of the characters.
6. Use of pen and ink second year.

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### SECOND DAY.

1. Materials—blotter, practice paper, copy books, pens and ink.
2. Vertical System—objection to and points favoring it.
3. Study of individual forms of letters and their combinations into words and sentences.
4. Practice of movement exercises.
5. Group the small letters for practice.
6. Capitals taught in connection with other studies.

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### THIRD DAY.

1. Develop in the fifth and sixth grades a strong muscular movement.
2. Much work upon small words such as man, mun, mum, etc., giving due attention to the angles of m at the bottom and u at the top.
3. Much work on loose practice paper.
4. Stress legibility, rapidity, and beauty. Why?
5. Points that lead to rapidity.
6. Neatness in all the work.

#### **FOURTH DAY.**

1. Definite period for writing each day. Why? Length of period.
2. Points for teaching writing successfully.
3. Use of capitals abused. How corrected.
4. Uniformity of slant an important element in writing.
5. Copies should be real reproductions.
6. Forearm movement combined with fingers in making large letters.

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#### **FIFTH DAY.**

1. Teach suitable content of subject-matter and see that the penmanship is neat, smooth, and legible.
2. Correct forms of business letters, social letters, checks, drafts, notes, and receipts.

## ENGLISH GRAMMAR

By S. J. T. Wynne, Superintendent of Schools, Harrison.

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### FIRST DAY.

#### *Language Studies.*

At least two-fifths of Institute time should be devoted to Language Studies. Fully eighty-five per cent. of those teaching in the public schools have never studied Language and have had no training how to teach it. Either because they are afraid of it, or do not realize its importance to the child, they neglect to teach Language. Let the Institute Instructor see that this is remedied. If the child is properly taught in Language Studies, he will do nicely in life though he never see a Grammar.

"A parrot-like knowledge of inflection and rules has ceased to be the goal of linguistic scholarship; and so far as any useful end is concerned, the mere ability to parse and analyze an intricate sentence counts for but little."—E. W. Hufcut, Cornell University.

"Write, write, write! There is no way to learn to write except by writing."—Emerson.

The teacher should know what he is going to teach and know how he is going to teach it before he begins his work.

(Aided by manuals of 1906, '07, '08.)

Determine vocabulary of pupils to present, develop this, and correct errors in speech and in the use of words. Any outline for the study of language must be suggestive only. Would suggest as a basis:

Stories read to pupils, reproduced by them.

Pupils read stories, and reproduce them.

Supplying words in sentences.

Observation studies in nature; sentences written on same.

Description of animals.

Give pupils subjects only within their comprehension, and, if possible, within their experience.

Studiously avoid all abstract subjects.

"Made up" stories, from pictures seen.

Short stories of places seen.

In the first, second, third, and fourth grades, require pupils daily to copy a lesson from their readers. They will acquire correct habits of expression.

Exercise in correct use of *a, an*.

Drill on sit, sat; saw, seen; took, taken; went, gone; and the like.

Drill in correct use of personal pronoun forms.

Memorize selections; write from memory.

Drill on correct use of capitals, period, question mark, and other common marks of punctuation.

Illustrate use of this, that; these, those.

Distinguish between use of learn and teach, shall and will, off and of, may and can.

FUTURITY.

FUTURITY AND DETERMINATION.

I	} shall go	You	} will go	I	} will go	You	} shall go
We		He		We		He	
		She				She	
		They				They	

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### SECOND DAY.

#### *Composition Work:*

Composition should be taught as a means and not as an end in itself. It should be taught almost exclusively in connection with such studies as geography, history, science, and literature and not as a separate branch.

Explain paragraph fully and teach to indent at beginning of each.

Paraphrase poems and other suitable lessons.

Write social and business letters.

Forms of invitations.

Letters accepting or declining.

Consult dictionary freely as to meaning and pronunciation of words.



Emphasize simplicity and clearness.

Have pupils exchange and correct the papers of others, then let teacher correct, and have pupils recopy.

Teach how to prepare outline.

Would suggest as model, outline in manual of 1907:

*A Morning Ride.*

1. Introduction.

- (a) Reason for taking.
- (b) Character of day.
- (c) Preparation for the ride.
- (d) Companions.
- (e) Route selected.

2. Body.

- (a) Description of the way.
- (b) Some special incident occurring.
- (c) Thoughts aroused by the same.
- (d) The return.

3. Conclusion.

- (a) Condition after the ride.
- (b) Benefits derived, social and other.
- (c) Altruistic feelings as a result.

(The teacher should use the regular system of proof reading, as nearly as practicable, in marking compositions for correction.)

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**THIRD DAY.**

*Technical Grammar.*

Formal grammar should not be commenced until the pupil can think into use its laws. A pupil may quote a grammar or a rhetoric from the title page to the end and not be able to write a page of clean, strong English. Ample evidence of this is on file with every County Examiner in the State.

The pupil should be thoroughly familiar with the primary facts of language structure.

He should be able, at a glance, to separate a sentence into its two parts—subject and predicate. He should be thoroughly drilled, first, in the proximate analysis of sentences, instead of the ultimate analysis.

Would suggest, as model, Patrick's:—"Proximate Analysis." In the proximate analysis of the most complex sentence, we find only four principal grammatical terms—noun-terms, adjective-terms, verb-terms, and adverb-terms.

By a grammatical term is meant any word, phrase, or clause that performs a distinct office in the structure of a sentence.

Noun-term. A noun-term is a word or group of related words that does the work of a noun.

The mind regards it as a thing.

Adjective-term. An adjective-term is a word or group of related words that does the work of an adjective. The mind regards it as a descriptive or limiting term.

Verb-terms. A verb-term is a word, or group of related words, that does the work of a verb. The verb-term asserts an attribute of the subject.

Adverb-terms. An adverb-term is a word, or group of related words, that does the work of an adverb. The adverb-term expresses an attribute of an attribute.

Prepositions are relation words. Conjunctions connect words, phrases, clauses, and sentences. Interjections do not enter into the construction of sentences.

The four principal grammatical terms may fill any office in the sentence that the corresponding single part of speech might fill.

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#### FOURTH DAY.

##### *The Parts of Speech:*

Necessity of classification.

Some words have more than one class.

Inflection—an attribute of five classes.

Parsing as related to grammar.

The use of the diagram.

Teach the outlines of the inflected classes, noting the definitions.

*Illustrative Outlines:*

*The Noun.*

Definition.

Classes.

Common	{	Abstract.
	{	Concrete.
	{	Collective.

Proper.

Inflection.

Gender	{	Kinds.
		How distinguished.
		Distinction between gender and sex.

Number	{	Singular.
		Plural.

Case	{	Classes.
		Formation of possessive.
		How determined.
		Origin of case forms.

Syntax.

As subject.

As object of verb or preposition.

As adjective modifier.

As appositive.

Predicate.

As objective complement.

Independently.

## FIFTH DAY.

### *The Verb:*

#### Outline :

Definition.

Classes.

As to meaning.

Transitive.

Intransitive.

Copulative.

Causative.

As to form.

Regular.

Irregular.

Defective.

Redundant.

Inflection.

Voice.

Active.

Passive.

Mode.

Indicative.

Subjunctive.

Potential.

Imperative.

Tense.

Present.

Present perfect.

Past.

Past perfect.

Future.

Future perfect.

Number.

Singular.

Plural.

Person.

First.

Second.

Third.

Use.

Predicate of sentence.

Copula.

Participles.

Present.

Past.

Past perfect.

Infinitives.

Present.

Present perfect.

Distinguish between synopsis and conjugation.

Note that some verbs are either transitive or intransitive.

Careful study of irregular verbs.

## READING

By E. A. Brennan, Superintendent of Schools, Texarkana.

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### FIRST DAY.

#### *Importance of Reading.—General Methods.*

Every study is pursued either for its culture value or for its practical value.

Reading is, so to speak, the key of knowledge since it opens up the source of most of our knowledge books, and therefore a practical study.

Reading is getting the thought from the printed page, or expressing the thought of the printed page. Evidently the former must always precede the latter. Otherwise expressed, silent reading and reading aloud. Since silent reading must always precede the other and is the manner in which most reading is done, it is evidently the more important.

That method of teaching any subject which the mind naturally follows in learning it, is the best method. There are many so-called methods, which are really not methods but merely devices; such are the Alphabetic, Phonetic, Phonic, Word, Sentence, Thought, Group. By no one of these means or devices can reading be taught—all of them must really be used at some stage of the process. It is only a question of the order in which they shall be used.

All learning may be resolved into two elementary processes—the Analytic and the Synthetic. The Analytic proceeds from the whole to its parts, from the group to its component individuals; the Synthetic proceeds from the parts to the whole, from the individual to the group or class. But here the order is not indifferent—it must always be from the known to the related unknown.

Every child begins his use of language with single words—not sentences or groups, or even phonograms. When he enters school he has a vocabulary of 150 to 400 words; moreover he has the further power, considerably developed, of grouping

these words into sentences. Here, then, is indicated the natural starting point and the psychological order—beginning with the known word and by its means passing to the unknown words, groups and sentences; it is also one of the logical methods, the Synthetic, for it proceeds from parts to wholes, from individuals to groups. This is beginning with the so-called Word Method and following it up with the Group, or Thought, and Sentence methods.

As already seen, there is another method of thought, the Analytic, which proceeds from known wholes or groups to their unknown parts or individuals; from these we proceed in the reverse order and build up out of these newly learned parts and individuals new wholes and new groups hitherto unknown. But how does this bear upon Reading? Having, by means of the vocabulary which the child possesses when he enters school, proceeded by the Synthetic method to the reading of sentences composed of words already known, we reverse the operation. Starting again with the known word we resolve into its elements, letters, elementary sound, phonograms, etc., and out of these we are able to build up hitherto unknown words, groups, sentences and to recognize them, i. e., we have learned to read. And this is what has been called the *Word Method*. But it must be readily seen that all the so-called methods are here used and the question is one of order rather than of method.

Some questions of detail are: shall we begin with the book or the blackboard? Shall we use the script or the printed characters? Most of the most successful teachers use the blackboard for several weeks, or until the children have learned to read some 40 to 60 of the words in their spoken vocabulary. The script characters have the advantage that they are much more easily copied by the children, and there seems, perhaps contrary to what might be expected, little or no difficulty in passing from the script to the printed characters.

*No word is learned until it can be pronounced immediately on sight and its meaning known.* Consequently, every word in a sentence should be known before the child attempts to read it; he must be able to give his entire attention to getting the meaning of the sentence as a whole. To this end the teacher should, at



the close of each lesson, call attention to the new words in the next lesson. It is useless to say there is not time—there must be time; if need be cut the lessons shorter or have fewer lessons, but let whatever is done be done properly.

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## SECOND DAY.

### *Oral Recitation—Correct Habits.*

*Natural Tones.* Most people pitch their voices too high in the mistaken idea that high-pitched tones can be more readily heard than those of low pitch. Others, naturally timid, are likely to read in a whisper. It ought to be easy to teach a child to speak in his natural conversational tones.

*Correct Expression.* The time when no habits have yet been formed is the best and the easiest time to form good habits. Therefore the first lessons are of the highest importance, and nowhere is this more true than in early habit in Reading.

*Distinct Articulation.* It is hardly necessary to discuss this except to say that the opposite extreme of over-articulation is equally to be avoided, for this is generally a mark of affectation.

*Easy Posture.* This is important not alone from a hygienic standpoint; attitude of body has an important reflex action on mental attitude, and the child who stands easily and gracefully will, other things being equal, read better than one who does not stand so.

*Train to Catch the Thought.* This is, after all, the whole end and purpose of learning to read. Draw out the pupil's thought by judicious questioning, by conversation, by story-telling. Never mind if you do not cover the set number of pages daily, pronouncing words is not necessarily reading.

*Hasten Slowly.* The first steps are always very slow and very short. The child has many difficult and many complex combinations to make in learning to read, and nearly all of them are difficult. There must be many failures and much forgetting. Much repetition and infinite patience are necessary.

### THIRD DAY.

#### *Suggestions and Drill Work.*

*Chart.* Notwithstanding that the chart business has been much overdone by dishonest manufacturers and dishonest agents, yet a chart following the black-board work or along side of it is very helpful; it would be much more so if its pages were enlarged fac-similes of the first few pages of the primer in use.

*Short Lessons.* The child mind is incapable of sustained attention except for short periods; therefore the lessons must be short and frequent. Better a short lesson read with ease and interest than a long one stumbled through.

*Imitation.* It is a good thing for the teacher occasionally to read the lesson aloud to the class. It helps break up monotone and other serious faults.

*Encourage Rather Than Criticize.* No comment is necessary although the fault is, unfortunately, too common.

*Permit no Interruptions.* Interruption, while the child is reading, confuse him and cause him to lose the meaning of the sentence. Let him get through the sentence before making corrections.

*Interest.* At the basis of reading, as of all studies, lies interest. The reading lesson to be interesting must appeal to the child's interests; those interests must be aroused by questioning, by conversation, but especially by selecting material well within the pupil's mental grasp.

*Reading to One Another.* This is an excellent exercise, especially if the listeners have their books shut. It cultivates attention as well as reading.

*Silent Reading.* As we have seen this is the most important form of reading; much attention should be paid to it. Reading silently and reproducing the substance but not the words is a useful device here.

*Attend to Errors.* No errors of articulation or pronunciation should be passed over, but let it always be remembered that correction and fault-finding are not synonymous terms. Be not

hypercritical; a slip by which a word is wholly lost without marring the sense is not a serious matter.

*Diacritical Marks.* At a very early stage the more important of the diacritical marks, the long and short vowel sounds and the mark for silent letters, may be taught incidentally, that is insofar as they may be helpful in finding out new words. But usually too much time is given to this. The real test of the usefulness of these marks to a child is not in enabling him to mark diacritically the words which he can already pronounce, *but in being able by their assistance to pronounce words hitherto unknown.* Yet the other seems to be the test usually set, although it is absolutely without value, theoretical or practical.

*Drill.* Doing the same thing over and over until its repetition becomes very easy or almost automatic is what is known as "drill." But drill may be carried to the point of monotony, it then becomes irksome and destroys all interest—this extreme must be avoided.

*Reading with the Eye.* In reading aloud, the eye must be able to run ahead of the voice. This requires training and long and careful practice. The training has no short cuts and no royal roads but it may begin early.

*Concert Reading.* Reading aloud in concert has some things in its favor: (1) It brings out the timid. (2) It checks those who read too rapidly. (3) It quickens up those who read too slowly. Nevertheless it must be used both cautiously and sparingly.

*Reading Aloud at Home.* This, of course, is not a matter wholly in the teacher's hands, and yet much may be done in many ways to encourage it. It is easy to see that it is an excellent practice for the pupil, and in many cases might be of value to the homes.

*Right Habits.* In reading, as in all things else, habit arises from repeated action, and good habits are just as easily acquired as bad ones; it is merely a question of right or wrong direction from the beginning. Do not give the bad habits a start.

## FOURTH DAY.

### *Preparation of the Lesson by Teacher and Pupil.*

The first part of the preparation must be in the class, when the teacher will call attention to new words, their meanings and uses; explain all historical and mythological allusions, etc. This calls for preparation on the part of the teacher before assigning the lessons; the pupil's preparation will come after this and before the next recitation. The teacher will always ascertain if this has been done by questioning as to (1) the subject matter of the piece, (2) persons, places or objects mentioned, (3) leading thoughts or incidents, (4) the pronunciation and meaning of new and unfamiliar words, (5) historical, biographical or mythological allusions. To be sure not all of these will be used in every lesson; the plan is merely suggestive and subject to endless variety. Like any other device, it loses its value the instant it becomes mechanical.

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## FIFTH DAY.

### *The Requirements of a Good Reading-Book (General Discussion)*

(1) It should be well printed and in sufficiently large type to make it easy for the child to point to each word with his finger as he pronounces it.

(2) It should be made attractive by pictures, and by the pleasantness and interest of the subject. This is of the first importance.

(3) The lessons should not be graded by so mechanical a rule as the mere length of the words and the number of syllables. The real grading of the words depends not on their length but on their familiarity or unfamiliarity and on the number of anomalous forms which they contain.

(4) Every lesson should contain at least two or three words which are a little beyond the child's own working vocabulary, and which therefore when learned will be distinct additions to it. This is very important.

(5) Let a good many of the lessons be narrative and in the form of dialogue, giving some play for changes of voice. Monotony is encouraged by always reading sentences consisting of assertions only.

(6) It is of comparatively little consequence that the lessons should obviously be didactic or instructive in the early stages. Later on, of course, we regard reading as a means to an end and that end is mental culture or obtaining useful information; but, in the early stages, reading is an end in itself, and whatever conduces to make it more interesting facilitates the acquisition of the art.

*This outline, being intended for a course of five lessons, is necessarily brief and merely suggestive. It does not pretend to touch except incidentally the second great division of reading—reading aloud, conveying to others the meaning of the printed page. This belongs to the domain of Elocution or Oratory.*

*If the term of the Institute extends beyond the short time contemplated, it will be an easy matter for the instructor to expand the several topics touched upon, to illustrate in class the various so-called methods, or even if time permits and he is equal to the occasion, take up the subject of Elocution.*

# UNITED STATES HISTORY

By W. D. Crawford, Superintendent of Schools, Dardanelle.

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## FIRST DAY.

### *General Discussion of—*

#### I. Objects of the Study.

- (1) To broaden our view of man's sphere of action.
- (2) To judge the present and future by the past.
- (3) To learn the certainty of cause and effect.
- (4) To develop a love for good character and a noble life.

#### II. Methods of Presentation.

- (1) Chronological,—develop every detail fully in the order of time as the class progresses. The ordinary text book method.
- (2) Analytic.
  - a. Present a brief outline of the whole history at the first lesson.
  - b. Develop each great branch of the subject gradually.
  - c. Discuss: character, morals, literature, education, invention, and progress in civilization; rather than wars.
  - d. In final details present many brief biographical sketches.
  - e. Use outlines and topics freely rather than lessons by pages.
  - f. Encourage independent reading and thought.

#### III. Model outline for first week in advanced class.

## Biographical Outline for the Day.

### *Benjamin Franklin.*

1. Born, Boston, Jan. 17, 1706; son of a poor soap-maker.
2. Was apprenticed to his brother as a printer when twelve years old.
3. Ran away to Philadelphia because of ill-treatment.
4. Visited England when nineteen years old.
5. Wrote "Poor Richard's Almanac."
6. Was appointed Postmaster General for the colonies, 1753.
7. Was a member of the first Continental Congress.
8. Was Ambassador to France 1778 and secured aid for the Revolution.
9. Was Ambassador to England, 1782, and negotiated the treaty of peace.
10. Was temperate, truthful, industrious, patient, kind, frugal, a model of honest virtue.
11. Quotations:
  - "Lost time is never found again."
  - "A fat kitchen makes a lean will."
  - "A small leak will sink a large ship."
  - "Remember Job suffered and was *afterwards* prosperous."
  - "Silks and satins put out the kitchen fire."
12. Was a member of the Constitutional Convention, 1787.
13. Proved the identity of lightning and electricity.
14. Turgot said of him, "Eripuit coelo fulmen, sceptrumque tyrannis."
15. Died in Philadelphia, 1790.

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## SECOND DAY.

### *General Outline.*

#### I. Origin.

##### 1. Aborigines.

(1) Mound Builders, (2) Cliff Dwellers, (3) Indians, (4) Aztecs.

2. Discovery.

(1) Irish, (2) Icelandic, (3) Spanish, (4) English, (5) French, (6) Dutch.

3. Chief Settlements.

(1) Florida, (2) Virginia, (3) Canada, (4) New York, (5) Massachusetts, (6) Georgia.

4. Revolution.

(1) Causes, (2) Events, (3) Results.

5. Steps in Organization.

(1) Union of the New England Colonies.

(2) The Albany Plan.

(3) Colonial Congress.

(4) First Continental Congress.

(5) Second Continental Congress.

(6) Confederation.

(7) Constitution.

II. History.

1. Foreign Wars.

(1) Barbary States.

(2) Second War with Great Britain.

(3) War with Mexico.

(4) Spanish War.

2. Civil War.

(1) Causes, (2) Events, (3) Results.

3. Development.

(1) Political, (2) Territorial, (3) Mechanical, (4) Literary,  
(5) Commercial, (6) Educational.

4. Special Topics.

(1) Famous Bills and Laws.

(2) Leading Dates.

(3) Famous Sayings.



- (4) Nicknames of Great Americans.
- (5) Rebellions or Insurrections.
- (6) Leading Generals.
- (7) Important Treaties.
- (8) Historical Poems and Songs.
- (9) Subjects for Essays.
- (10) Subjects for Debate.
- (11) Political Terms and Popular Expressions.
- (12) The Presidents and Their Administrations.
- (13) Queer Queries.
- (14) Great Questions and Issues.
- (15) Growth of Great Cities.
- (16) Geographical Associations.

#### Biographical Outline for the Day.

#### *James Monroe.*

1. Born in Westmoreland County, Virginia, 1758.
2. Graduated from William and Mary College, 1776.
3. Served in the battles of Germantown, Trenton, and Monmouth.
4. Member of Virginia Legislature, 1782; Continental Congress, 1783-'86.
5. U. S. Senator, 1790; Minister to France, 1794.
6. Governor of Virginia, 1798; Minister to France again, 1801.
7. Helped to negotiate the Louisiana Purchase Treaty.
8. Governor of Virginia 1811; Secretary of State and then of War to Madison.
9. President, 1817-'25.
10. In a message to Congress he advocated the "Doctrine" that the acquiring of territory on the Western Continent by any European Power would be considered an unfriendly act by the United States.
11. Jefferson said of him, "His soul might be turned inside out and not a blemish be found."

12. He opposed the adoption of the Constitution.
13. He secured the purchase of Florida, 1819.
14. He grew poor instead of rich in the course of his public services.
15. Died July 4, 1831.

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### THIRD DAY.

#### *Outline of Steps to Our Union.*

- I. Union of the New England Colonies: Plymouth, Massachusetts Bay, Hartford and New Haven, 1643.
- II. Albany Convention.
  1. Cause, French and Indian War.
  2. Measures, Plan for Colonial Union.
  3. Place and Time, Albany, N. Y., 1754.
  4. Leading man, Benjamin Franklin.
  5. Results, Caused the people to begin to think of Union.
- III. First Colonial Congress, 1765.
  1. Cause, the Stamp Act.
  2. Measures.
    - (1) Declaration of Rights.
    - (2) Petition to the King.
    - (3) Petition to Parliament.
  3. Results, Repeal of the Stamp Act.
- IV. First Continental Congress, 1774.
  1. Cause, Taxation Without Representation.
  2. Measures.
    - (1) Declaration of Rights.
    - (2) Petition to the King.
    - (3) Address to the People of England.
  3. Results, Nothing.

V. Second Continental Congress, 1775.

1. Cause, Continued Oppression.
2. Measures.
  - (1) George Washington made commander of the army.
  - (2) Took entire control of the Revolutionary War.
  - (3) Issued the Declaration of Independence.
  - (4) Issued money and made treaties.
3. Results, Independence.

VI. Confederation, 1781.

1. Originated in Congress, 1776.
2. Was slowly adopted by the States.
3. Provided for a Congress of Delegates from Independent States.
4. Had no President or Judiciary or tax collecting power.
5. Was the form but not the substance of a Federal Government.

VII. Constitution, 1789.

Biographical Outline for the Day.

*Samuel J. Tilden.*

1. Born Feb. 4, 1814.
2. Was a personal friend and neighbor of Martin Van Buren, who praised him for his steadiness of character.
3. Was admitted to the Bar in 1841 and was noted for careful reasoning rather than eloquence.
4. In 1869 he led in the political reform that broke up the "Tweed Ring" in the City of New York.
5. Was elected Governor of New York in 1874 and then helped to break up the "Canal Ring."
6. Was candidate for President in 1876 against Hayes and received the Popular vote but lost the Electoral vote.

7. Accepted defeat as well as victory in a deliberate and manly way.
8. Was noted for sterling honesty, hard work, and cool judgment.
9. Was known as the "Sage of Greystone."
10. Died in New York, 1876.

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#### FOURTH DAY.

#### *Outline of Foreign Wars.*

##### I. French Naval War, 1797-'99.

1. "Millions for defense but not one cent for tribute"—C. C. Pinckney.
2. X. Y. Z. Papers.
3. Song, "Hail Columbia," by Joseph Hopkins.
4. We capture more than a score of French war vessels.
5. Peace made with Napoleon at the close of the French Revolution.

##### II. Tripolitan War, 1801-'05.

1. Cause, Pirates demand ransom for Americans held as prisoners.
2. Bombardment of Tripoli by Commodore Preble.
3. Treaty of peace gives us trading rights on the Mediterranean.

##### III. Second War with Great Britain, 1812-'15.

1. Causes.
  - (1) Impressment of American seamen.
  - (2) Old ill feeling between the Americans and the English.
2. Events.
  - (1) Hull's surrender of Detroit, 1812.
  - (2) Perry's victory on Lake Erie, 1813.

- (3) McDonough's victory on Lake Champlain, 1814.
- (4) Battle of Lundy's Lane and burning of Washington, 1814.
- (5) Battle of New Orleans and Treaty of Ghent, 1815.

3. Results, Mutual respect. Increase of Trade.

#### IV. Algerian War, 1815.

1. Cause, Pirates imprisoning American seamen and citizens.
2. Events, Commodore Decatur destroys the Algerian fleet.
3. Results, Free navigation to the Mediterranean.

#### V. Patriot's War, a rebellion in Canada, 1837-'38.

#### VI. Mexican War, 1846-'48.

1. Cause, Annexation of Texas and Disputed Boundary.
2. Northern Campaign, Gen. Taylor, Palo Alto, Buena Vista.
3. Southern Campaign, Gen. Scott, Vera Cruz, Mexico.
4. Results, Treaty Guadalupe Hidalgo gives additional territory.

#### VII. Spanish War, 1898.

1. Rebellion in Cuba, 1895.
2. Battleship Maine blown up in Havana Harbor, Feb. 15, 1898.
3. War declared, April 21, 1898.
4. Manila Bay captured by Commodore Geo. Dewey, May 1.
5. Cervera's Fleet destroyed, July 3, at Santiago, Cuba.
6. Santiago captured July 14, Porto Rico captured July 25.
7. Protocol August 12, Final Treaty signed Oct. 12.

- 8.. Cuba becomes an Independent Republic.
9. Porto Rico and Philippines ceded to the U. S. for \$20,000,000.

### Biographical Outline for the Day.

#### *U. S. Grant.*

1. Born on a farm in Ohio, 1842.
2. No free schools in Ohio then, so he received little education.
3. Graduated below the average at West Point.
4. Served in the Mexican War.
5. Entered the Civil War as a Colonel, left it as a Lieut. General.
6. Ft. Donaldson, Shiloh, Vicksburg, Richmond, Appomatox.
7. Lincoln said, "He is the first 'General' I have had."
8. Lee said, "Grant is not a retreating man."
9. Served as President 1868-'72.
10. Journeyed around the world and met every great Prince or Potentate in Europe or Asia.
11. A bank failure in 1884 took all his property.
12. Finished writing his "Memoirs" while on his death bed in order to provide for his family.
13. Died at McGregor, New York, 1885; interred at Riverside Park, N. Y.

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### FIFTH DAY.

#### *Outline of Mechanical Progress.*

1. Cotton Gin, Eli Whitney, 1793.
2. Fulton's Steamboat, Clermont, first practical steamer, 1807.
3. First Ocean Steamer, Savannah, 1819.
4. Erie Canal begun by DeWitt Clinton, July 4, 1817, completed 1825.

5. Railroads.
  - (1) First Engine, Hoboken, N. Y., 1825.
  - (2) First Steam Railway begun by Charles Carroll, July 4, 1828.
  - (3) First practical engine used at Charleston, S. C., 1831.
6. Reaper, Patented by Cyrus McCormick, 1834, first used 1841.
7. Screw Propeller for Ocean Steamers, John Ericson, 1836.
8. First Express, Boston to New York, W. F. Harnden, 1839.
9. Daguerreotype or photograph perfected, 1840.
10. Hard Rubber, Chas. Goodyear, 1844.
11. Telegraph, S. F. B. Morse, patent 1837, first line 1844.
12. Sewing machine, Elias Howe, 1846.
13. Discovery of Anesthesia by four physicians independently, 1846.
14. Steam Cylinder Printing Press, Richard Hoe, 1848.
15. Steam Fire Engine, Lata Bros., 1853.
16. Atlantic Cable, Cyrus Field.
  - (1) First attempt, 1857.
  - (2) Second and third attempts, 400 messages sent, 1858.
  - (3) Entire success, 1866.
17. First Ironclad Monitor, John Ericson, 1862.
18. Pacific Ry., 1916 miles long, marks an era in Ry. building, 1866-'69.
19. Telephone, Bell and Gray, 1870.
20. Phonograph, Thos. A. Edison, 1877.
21. Mississippi Jetties, built by Capt. Jas. Eades, 1879.
22. First practical electric light, Thos. A. Edison, 1880.
23. Brooklyn Bridge, John A. Roebling, 1883.
24. Submarine Boat, Holland.
25. Wireless Telegraphy.

## Biographical Outline for the Day.

### *Robert E. Lee.*

1. Born in Virginia, 1807.
2. Son of "Light Horse Harry" Lee.
3. Graduated at West Point, 1829.
4. Served in the Mexican War as a Colonel.
5. Disapproved "Secession" but supported "State Sovereignty" and followed his native State into the Rebellion.
6. Became commander of the "Army of Northern Virginia" in 1862.
7. Successfully defended Richmond for three years.
8. Was the greatest General in defensive operations in modern times.
9. After the Civil War was President of Washington College at Lexington, Virginia, the College name being changed to Washington and Lee University in his honor.
10. Was especially noted for his kindness and good will.
11. "Duty is the sublimest word in the English language."
12. Died at Lexington, Virginia, 1870.



## ORTHOGRAPHY

By C. S. Barnett, Superintendent of Schools, Eureka Springs.

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### FIRST DAY.

#### *General Discussion.*

We speak and we write our language. Careful training should be given in *pronouncing* and in *writing* words.

"Correct pronunciation is as important as correct spelling."

Words are signs of ideas. All words not familiar to the pupil should be used in thought-bearing sentences.

A record of all difficult words misspelled should be kept, and these words should be used frequently in reviews.

Reviews in spelling should be more frequent than in any other study.

The misspelled words should be recorded in a book kept for that purpose. The writer once had a special "Spelling Record" made for each pupil.

An excellent plan is to have each pupil keep a record of his misspelled words, either in a "Spelling Record" made especially for the purpose, or by the use of the Pedagogical Spelling Blank made by A. Flanagan, Chicago.

A large chart for the wall, with each pupil's name, and blank space for misspelled words, has done wonders for one school.

All words commonly misspelled in the written work of the pupils should be preserved for reviews.

The words the pupils use and cannot spell, form the best material for spelling lessons.

Work in vocabulary building is interesting and profitable. Prof. George H. Palmer says: "Let any one who wants to see himself grow, resolve to adopt two new words each week. It will not be long before the endless and enchanting variety of the world will begin to reflect itself in his speech and in his mind as well. I know that when we use a word for the first time we are startled, as if a fire-cracker went off in our neighborhood.

We look about hastily to see if any one has noticed. But finding that no one has, we may be emboldened. A word used three times slips off the tongue with entire naturalness. Then it is ours forever, and with it some phase of life which had been lacking hitherto."

Words should occasionally be written in separate syllables, the separation being denoted by spaces. The division of words into syllables is an important matter.

Dictation exercises are valuable in teaching words in their proper surroundings, and in teaching capitalization and punctuation.

Dr. Klemm says in his "Chips from a Teacher's Workshop", "A list of words without meaning to the child, isolated words without connection in thought-bearing sentences, are like pebbles in the stomach."

The diacriticals should be taught in every grade of the schools, beginning with the long and short sounds in the primary and continuing the work until all of the marked sounds are familiar.

A drill of five minutes a day on the use of the diacriticals will, in a short time, give the pupils the ability to use the dictionary intelligently.

Construction exercises are a valuable aid to teaching spelling. Groups of words associated in meaning are easily learned, and can readily be given in connection with the work in composition. We are giving a list of suggestive exercises for the fourth day's work in the Institute, from an excellent work, entitled "A Spelling Book by Georgia Alexander", published by Longmans, Green & Co., New York.

## SECOND DAY.

### *Diacriticals.*

#### 1. Definition.

Marks used with letters to show that they stand for some particular sound

2. Marks used.

ā a, ə, ě, ô, ã, ë, u, ç, s, ö, a.

3. Names of marks used.

- (1) Macron.
- (2) Submacron.
- (3) Transmacron.
- (4) Breve.
- (5) Caret.
- (6) Tilde.
- (7) Diæresis.
- (8) Subdiæresis.
- (9) Cedilla.
- (10) Perpendicular.
- (11) Accent.
- (12) Period.
- (13) Subperiod.

4. Diacritical Charts.

1. Of a.

- (1) Macron a as ā in hay.
- (3) Breve a as ă in hat.
- (3) Caret a as â in air.
- (4) Period a as à in last.
- (5) Diæresis a as ä in far.
- (6) Subperiod a as a in what.
- (7) Subdiæresis a as a in ball.

2. Of e.

- (1) Macron e as ē in mete.
- (2) Breve e as ě in met.
- (3) Caret e as ê in heir.
- (4) Tilde e as ẽ in term.
- (5) Submacron e as   in they.

3. Of i.

- (1) Macron i as ī in site.
- (2) Breve i as ı in sit.

- (3) Diæresis i as  $\ddot{i}$  in valise.
  - (4) Tilde i as  $\tilde{i}$  in firm.
4. Of o.
- (1) Macron o as  $\bar{o}$  in not.
  - (2) Breve o as  $\breve{o}$  in not.
  - (3) Caret o as  $\hat{o}$  in fork.
  - (4) Tilde o as  $\tilde{o}$  in work.
  - (5) Period o as  $\overset{\circ}{o}$  in dove.
  - (6) Subperiod o as  $\underset{\cdot}{o}$  in wolf.
  - (7) Subdiæresis o as  $\underset{\cdot}{\overset{\cdot}{o}}$  in move.
5. Of oo.
- (1) Macron oo as  $\overline{oo}$  in moon.
  - (2) Breve oo as  $\underset{\cdot}{oo}$  in book.
6. Of u.
- (1) Macron u as  $\bar{u}$  in mute.
  - (2) Breve u as  $\underset{\cdot}{u}$  in hut.
  - (3) Caret u as  $\hat{u}$  in furl.
  - (4) Subperiod u as  $\underset{\cdot}{u}$  in put.
  - (5) Subdiæresis u as  $\underset{\cdot}{\overset{\cdot}{u}}$  in rude.
7. Of c.
- (1) Transmacron c as  $\c{c}$  in can.
  - (2) Cedilla c as  $\c{c}$  in citizen.
8. Of g.
- (1) Period g as  $\dot{g}$  in gem.
  - (2) Macron g as  $\bar{g}$  in go.
9. Of n.
- (1) Tilde n as  $\tilde{n}$  in canon.
  - (2) Submacron n as  $\underset{\cdot}{n}$  in finger.
10. Of s.
- (1) Perpendicular s as  $\bot{s}$  in was.

11. Of th.

(1) Macron th as  $\overline{th}$  in beneath.

12. Of y.

(1) Macron y as  $\overline{y}$  in my.

(2) Breve y as  $y$  in myth.

(3) Tilde y as  $\tilde{y}$  in myrrh.

A thorough drill on the use of the diacriticals should be given the teachers. Let the teachers give the sounds of the letters as indicated by the marks. A lesson or two in diacritical spelling will be helpful. A diacritical match is as interesting as any other match, if the teachers know the use of the diacritical marks. The writer has observed that a great many teachers do not know the importance of teaching the marked sounds of the letters. A great many pupils pass through the grades without being able to pronounce a word when looking at it in the dictionary.

Begin drilling on the macron and breve sounds with little children and keep up the work with the older ones until they have mastered the subject.

Make charts on manilla paper with a rubber pen and drill on these each day the last five minutes before the close of any session.

Write the sounds of "a" at the top of your blackboard and drill on these "while you wait." Keep up the drill until all of your pupils can use the dictionary intelligently.

Remember that correct pronunciation is as important as correct spelling and much of our so-called bad spelling is due to bad pronunciation.

Occasional lessons should be given in marking words diacritically. The teacher should pronounce the words and the pupils should mark the letters with proper diacriticals.

### *A Test in Pronunciation.*

The words which are given here were selected from the lists for pronunciation in "Course of Study for the Common Schools of Illinois."

1. Aunt.

4. Aye.

7. Area.

2. Ant.

5. Bicycle.

8. Arid.

3. Almond.

6. Docile.

9. Bade.

10. Again.	24. Courteous.	38. Chasten.
11. Horizon.	25. Pique.	39. Hearth.
12. Condolence.	26. Donkey.	40. Alms.
13. Drought.	27. Beneath.	41. Leisure.
14. Pumpkin.	28. Column.	42. Heroine.
15. Bomb.	29. Ere.	43. Envelope.
16. Quotation.	30. Corps.	44. Faucet.
17. Desert.	31. Forehead.	45. Half.
18. Concise.	32. Gape.	46. Psalm.
19. Stratum.	33. Inquiry.	47. Bath.
20. Process.	34. Bulk.	48. Data.
21. Alternate.	35. Ally.	49. Err.
22. Queer.	36. Neither.	50. Inclement.
23. Arctic.	37. Creek.	

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### THIRD DAY.

#### *Methods of Teaching Spelling.*

#### 1<sup>1</sup>. Writing Method.

#### 1<sup>2</sup>. Material necessary.

1<sup>3</sup>. Blackboard.

2<sup>3</sup>. Spelling Book.

3<sup>3</sup>. Dictionary.

4<sup>3</sup>. Spelling blank.

5<sup>3</sup>. Pencil, or pen and ink.

#### 2<sup>2</sup>. Preparation.

#### 1<sup>3</sup>. On the part of the teacher.

1<sup>4</sup>. Study closely the pronunciation of each word.

2<sup>4</sup>. Look up shade of meaning of each word and be able to illustrate if necessary.

3<sup>4</sup>. Write on the board or have marked in spelling book words to be studied. Point out difficulties.

- 2<sup>3</sup>. On the part of the pupils.
  - 1<sup>4</sup>. Copy words on scratch book.
  - 2<sup>4</sup>. Observe closely the difficult points in each word.
  - 3<sup>4</sup>. Study the pronunciation of each word by use of dictionary.
  - 4<sup>4</sup>. Find out the meaning of unfamiliar words.
- 3<sup>2</sup>. Recitation.
  - 1<sup>3</sup>. Pupils should lay aside study tablets and books.
  - 2<sup>3</sup>. Words should be erased from boards or covered from view.
  - 3<sup>3</sup>. The teacher should pronounce each word distinctly and correctly, but once, except for good reasons.
  - 4<sup>3</sup>. Pupils should exchange spelling blanks.
  - 5<sup>3</sup>. Words should be spelled orally by teacher or pupils.
  - 6<sup>3</sup>. Each misspelled word should be marked with an X.
  - 7<sup>3</sup>. Every misspelled word should be written correctly on the stub of the spelling blank.
  - 8<sup>3</sup>. Grade upon the principle that the loss sustained from misspelling a word is twice as great as the gain from spelling a word correctly.
- 2<sup>1</sup>. Oral.
  - 1<sup>2</sup>. Material necessary. Same as for writing.
  - 2<sup>2</sup>. Preparation. Same preparation as for written spelling except the addition of having pupils pronounce the words to one another, if possible.
  - 3<sup>2</sup>. Recitation.
    - 1<sup>3</sup>. Books closed and all aids put aside.
    - 2<sup>3</sup>. Pupils stand in line.
    - 3<sup>3</sup>. "Turning down" and "headmarks" add interest.
    - 4<sup>3</sup>. Words should be pronounced by the teacher correctly and distinctly, but once, except for good reasons.

- 5<sup>3</sup>. Pupils should pronounce the words correctly before spelling.
- 6<sup>3</sup>. The "spelling match," occasionally, when managed properly, is a source of much interest.
- 7<sup>3</sup>. Review lessons may be conducted with advantage by means of the "spelling match."
- 8<sup>3</sup>. Ways of conducting a "spelling match:"
  - 1<sup>4</sup>. The Common Method.
  - 2<sup>4</sup>. Saving and Out.
  - 3<sup>4</sup>. The Written Spelling Match.
  - 4<sup>4</sup>. The Hospital Spelling Match.
  - 5<sup>4</sup>. Passing Over.
  - 6<sup>4</sup>. Climbers.
  - 7<sup>4</sup>. Champions.
  - 8<sup>4</sup>. Half-way Line.
  - 9<sup>4</sup>. Keeping Tally.
- 3<sup>1</sup>. Comparative Merits of Written and Oral Spelling.
  - 1<sup>2</sup>. Advantages of the writing method.
    - 1<sup>3</sup>. The structure of the word is fixed in the memory through the most important sense—the sense of sight.
    - 2<sup>3</sup>. The "after images" of sight are more persistent than those of hearing.
    - 3<sup>3</sup>. The eye can dwell longer on the word spelled.
    - 4<sup>3</sup>. The possibilities for correction are greater.
    - 5<sup>3</sup>. It is a better test of comparative skill of a class.
    - 6<sup>3</sup>. Every pupil is required to spell every word.
    - 7<sup>3</sup>. Better attention secured.
    - 8<sup>3</sup>. Records of misspelled words may be more systematically kept for reviews.
    - 9<sup>3</sup>. The practical necessity is greater.
    - 10<sup>3</sup>. "That which strikes the ear is lost in one short hour,



But that which strikes the eye lives long upon  
the mind,

The faithful sight engraves the thought with a  
beam of light."

2<sup>2</sup>. Advantages of the Oral Method.

1<sup>3</sup>. It is more convenient.

2<sup>3</sup>. It is more interesting.

3<sup>3</sup>. More emphasis on pronunciation.

4<sup>3</sup>. Correct syllabication more easily taught.

5<sup>3</sup>. Admits of more interesting competitive recitations.

NOTE.—Not much more than the thread that binds this outline together is claimed by the writer. The best writers on pedagogy have been consulted and quoted freely with and without quotation marks.

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FOURTH DAY.

*Subjects for Construction Exercises.*

At the Postoffice.

On a Street Car.

In the Kitchen.

On Circus Day.

A Loaf of Bread.

A Barrel of Flour.

A Pound of Butter.

Out of the Woods.

A Spring Walk.

In the Summer.

On the Play Ground.

Going to School.

In the Bedrooms.

In the Pantry.

In the Dry Goods Store.

In the Evening.

A Winter Morning.

At the Daily Market.

A Hotel Guest.

The Daily Paper.

A Good Citizen.

At a Concert.

My Favorite Magazine.

In the Living Room.

The Study of a Book.

At Breakfast.

Marks of Punctuation.

Words Used in Business.

The President's Cabinet.

At Dinner.

The Federal Government.	In an Art Gallery.
Words Used in Grammar.	A Sleigh Ride.
Our Island Possessions.	A Visit from Santa Claus.
At Supper.	In the Evening.
A Stitch in Time.	The Story of a Stream.
Fisherman's Luck.	A Gingham Apron.
Some of Our Friends.	The Story of a Clock.
At Church.	What a Boy Wears.
A Spelling Match.	In the Autumn.
A Pocket Handkerchief.	Pioneer Life.
A Fire at School.	

The subjects given above may be assigned to the teachers and lists of related words may be made as a vocabulary exercise, or the subjects may be used as indicated in the following examples from Alexander's Spelling Book.

#### In the Morning.

hair	tidy	comb	wash
tangle	early	shoes	sister
clothes	braid	fasten	sunshine

#### Visit from Santa Claus.

carol	merry	expect	holly
candies	stocking	slipped	surprise
whispered	wrapped	presents	unpacked

#### A Hotel Guest.

rate	guest	cashier	receipt
lobby	waiter	prompt	courtesy
service	manager	parlors	occupant
restaurant	corridors	payment	proprietor
permanent	European	transient	accommodate

Write of a real or an imaginary stay you once made in a large hotel, using from memory not fewer than eight of the words above.

### In the Bedroom.

linen	iron	toilet	prayer
airing	towels	mirror	dainty
curtain	dresser	spotless	comfort
washstand	mattress	bedstead	healthy

Write three interesting sentences, using from memory not fewer than five of the words above.

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### FIFTH DAY.

#### *Dictation Exercises.*

Dictation exercises are very important and much neglected in teaching spelling. In exercises of this character, the pupils see the words in their proper surroundings. If the selections are good, the training in good use, in punctuation, in beautiful diction, can not be overestimated.

The selections to be studied should be written neatly upon the board, if no text-book containing the matter is in the hands of the pupils. The attention of the pupils should be called to the points to be carefully studied. They should see whether the selection is prose or poetry, and have their attention called to the special rules for writing poetry. The marks of punctuation should be carefully observed. Difficult words should be looked at "intensely," and the muscular memory called upon to aid in fixing the proper form upon the mind.

Sometimes exercises of this character may be given without previous preparation on the part of the pupils. The following may be given to the teachers as a test:

Will you please give me a glass of milk?

I shall be glad to. Here it is.

I thank you very much.

In the heart of a seed,  
Buried deep, so deep,  
A dear little plant  
Lay fast asleep.

—KATE L. BROWNS *The Little Plant.*

"Do you know, Grace," said my brother, "that if you should go to the end of the rainbow, you would find there purses filled with money, and great pots of gold and silver?"

"Is it truly so?" I asked.

"Truly so," he answered.—GRACE GREENWOODS *Chasing a Rainbow*.

Suddenly something tugged at my line and swept off with it into deep water. Jerking it up, I saw a fine pickerel.

"Uncle," I cried, "I've got a fish!"

"Not yet," said my uncle. As he spoke there was a splash in the water. I had lost my prize.—JOHN GREENLEAF WHITTIER: *The Fish I Didn't Catch* [abridged].

The mists had congregated about the distant mountain-side and there were seen the grand and awful features of the Great Stone Face, awful but benignant, as if a mighty angel were sitting among the hills.—NATHANIEL HAWTHORNE: *The Great Stone Face*.

This old shoemaker, with his spectacles pushed up on his forehead, and his leather apron tied round his waist, had always been kind to Louise ever since her father took her to his shop last summer, to be measured for a pair of shoes. He looked at the little worn shoe that she took off, and said inquiringly, "That shoe was not made in this country?" "No," answered the father, "that shoe came from Germany." Then the old man laid his rough hand caressingly over the worn leather, and answered, "I, too, came from the fatherland, but it is now more than fifty years since I saw the Rhine."—JANE ANDREWS: *Each and All* [adapted].

"Pray who are you, beautiful creature?" inquired Pandora.

"I am Hope!" answered the sunshiny figure.

"Your wings are colored like the rainbow!" exclaimed Pandora.

"Yes," replied Hope, "because I am partly made of tears as well as smiles."

"And will you stay with us forever?"

"I promise never to desert you," said Hope. "Trust in my promise, for it is true."

And so they did, and so has everybody trusted Hope that has since been alive.—NATHANIEL HAWTHORNE: *The Paradise of Children* [abridged].

When, in the course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth the separate and equal station to which the laws of nature and nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to separation.—Declaration of Independence.—Selected from "Alexander's Spelling Book."

## PHYSIOLOGY AND HYGIENE

By Jack McCullough, Principal of Schools, Clarendon.

There is a growing opinion among teachers that a series of books, treating of physiology and hygiene, should be a series which, "does not waste time in teaching the child 'how many bones there are in the human body' or 'the circulation of the blood'—facts which, as formerly taught, had about as much personal meaning to a pupil as the islands of the Ægean Sea or the tributaries of the Nile—but shows him why it is good to be clean and healthy; just how dirt and sickness, wrong habits, and intemperance, injure him and other people; just what scientists and the men who make the laws are doing to help all boys and girls to grow up into healthy, intelligent citizens."

In view of this change in attitude no apologies are offered for the introduction in an institute of so far-reaching a subject as consumption.

For the same reason it is hoped and believed that the study of school hygiene will tend to make a sound mind in a sound body.

Let all the teachers teach and practice these things in their schools.

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### FIRST DAY.

#### Consumption.

##### I. *Prevalence.*

Most prevalent of all diseases—causes one-seventh of all deaths.

Mortality, as compared with other diseases.

The victim may be unaware of his affliction.

##### II. *Nature.*

A pulmonary disease—two types, rapid and chronic.

First symptoms—cough, indigestion, slight fever, with gradually increasing weakness.

Last stages.

## SECOND DAY.

### Consumption, Continued.

#### III. *Cause.*

A bacillus is the only direct cause.

Conditions which predispose the system to infection: (1)

Heredity; (2) Ravages of other diseases; (3) Environment—occupation, poor food, overcrowding, impure air, etc.

Methods of Infection: (1) Sputum; (2) Milk or flesh of tuberculous animals; (3) Direct inoculation.

The crime of spitting.

#### IV. *Prevention and Cure.*

“It has never been proved that germs will cause harm or disease to a perfectly healthy body.”

A healthy body does not lend itself to infection: a body, saturated with the virus of one disease, easily falls a prey to any other kind of infection.

Sedentary occupations should be avoided.

Pure air—special arrangement for ventilation night and day.

Regular hours.

Abundant digestible food.

“Place no reliance whatever on drugs.”

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## THIRD DAY.

### School Hygiene.

#### I. *Heating and Ventilation.*

#### II. *Hygiene in School Furniture.*

(a) Size and shape of desks.

(b) Posture.

(c) Blackboards and crayon.

#### III. *Light.*

#### FOURTH DAY.

School Hygiene, Continued.

- IV. *Gymnastics and Singing.*
- V. *Outdoor Games.*
- VI. *Cigarettes.*
- VII. *Defective Senses in Children.*

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#### FIFTH DAY.

The instructor is urged to invite some person, preferably a physician, to use this time in discussing the nature, prevention and cure of some disease prevalent in the locality in which the Institute is held.



# GEOGRAPHY

By J. L. Spence, Superintendent of Schools, Monticello.

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## FIRST DAY.

### *Primary Geography.*

Direction and distance—"the which way" and "the how far." Material to illustrate, schoolroom, grounds, roads, landscape, etc.

Map of school grounds and immediate vicinity. Form mold board, elevations, depressions and minor subdivisions of land and water. Point out characteristics of each.

Discuss common plants, fruits and uses; domestic animals, growth, habits, values; races of people in county, appearance, manners, habits, occupation, education and citizenship.

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## SECOND DAY.

### *County.*

Map of county emphasizing boundaries, natural and artificial.

Water Courses—Rivers, canals, creeks.

Railroads.

Towns, cities.

Natural Divisions—Mountains, valleys, plains, prairies, plateaus, etc.

Discuss Resources—Soil, minerals, forests, water power, etc.

Products—Lumber, machinery, grain, cotton, fruits, vegetables, live stock, manufactured goods, etc.

Schools—Primary, grammar school, high school, colleges, etc.

Prominent Citizens—Ministers, physicians, teachers, lawyers, farmers, statesmen, soldiers, etc.

Government—Home, school, township, county, etc.

With a slight variation the above outline will apply to Arkansas, United States, or any other country.

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### THIRD DAY.

#### *Mathematical Geography.*

Study Earth from the globe—Size, shape, axis, diameters, parallels, meridians, latitude, longitude, zones, circles, degrees.

Motions—Rotation, revolution.

Result—Seasons, day and night, solstices, equinoxes, etc.

Discuss earth's distance from and influence upon other bodies and *vice versa*.

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### FOURTH DAY.

#### *Physical Geography.*

Study Earth—Formation, causes of regularity and irregularity of surface and temperature.

Lands—Continents, islands, peninsulas, etc.

Relief—Prairies, plains, plateaus, mountains, divides, watersheds, etc.

Phenomena—Volcanoes, earthquakes, causes, relations, long past, recent.

Changes in operation, erosion, deposits, etc.

Water—Oceans, seas, lakes, rivers, etc.

Currents—Waves, tides, causes, results.

Winds—Trade, monsoons, sea breezes, tornadoes, hurricanes, cyclones etc.

Climate—Affected; altitude, latitude, winds, rainfall, vegetation mountains, etc.

## FIFTH DAY.

### *Commercial Geography.*

Name principal import, export cities, railroad and steamship lines.

Countries holding special commercial relations with us.

Chief articles of import and export.

Trade balance in favor or against us each year.

Discuss free trade, tariff-for-revenue, for protection, reciprocity, interstate commerce laws.

Political parties for or against tariff.

Effect Panama Canal may have on commercial relations.

Powerful navy essential to commercial supremacy.

### *Political Geography.*

Human Family—Savage, barbarous, civilized, enlightened etc.

Races—Caucasian, Mongolian, Malay, Indian, Ethiopian.

Pursuits—Agriculture, mining, manufacturing, commerce, transportation, etc.

Religions—Christianity, Judaism, Mohammedanism, Buddhism, etc.

Governments—Republican, monarchical, etc.

## ARKANSAS HISTORY

By Ury McKenzie, Superintendent of Schools, Morrilton.

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### FIRST DAY.

#### 1. *Importance of This Study.*

##### (a.) Practical Value.

1. Knowledge of history of State—early settlements—growth, development.
2. Knowledge of prominent men in the history of the State—their connection with important events and affairs of the State.
3. Familiarity with advancement of State along agricultural, industrial, educational, social, and religious lines.
4. Knowledge of the government of the State in local affairs.

##### (b.) Educational Value.

1. Develops a feeling of love and pride for one's State.
2. Teaches local patriotism.
3. Cultivates an interest in the affairs of the State.
4. Arouses an interest for well-being of the State.
5. Gives an interest and appreciation for the important characters of the State—those of the past as well as the present

#### 2. *General Discussion of Methods of Teaching the Subject.*

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### SECOND DAY.

Early History—Colonial and Territorial.

##### (a.) Acquisition.

Extent of territory acquired by France in 1682. Later transferred to Spain, then to France, then to United States. Details of these transfers. States and Territories later formed from the territory thus acquired.

(b.) Earliest Occupants.

Indian Tribes. Names, manner of living, habits, remains found today in different parts of the State.

(c.) Early Explorers.

DeSoto, La Salle, Marquette, Joliet, Father Hennepin and others. The explorations of each traced upon outline map. Importance of explorations, and results for future history.

(d.) First Settlement.

Where, when, and by whom? Slow growth of settlement.

(e.) Early Government.

Important French and Spanish Governors, with a brief account of their work.

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**THIRD DAY.**

Early History—Continued.

(f.) The Louisiana Purchase.

Events leading up to this purchase. Importance to future history. Persons connected with the purchase. Transfer of property.

Territories formed for purpose of government, from territory ceded by France.

3. *Explorations—Lewis and Clark.*

Importance. Date. Territory traversed.

4. *Earthquakes.*

"Sunk lands."

5. *Arkansas Territory Formed.*

Date. Capital. Counties early formed.

Work of Territorial Legislatures.

First newspaper.

Treaties with Indians.

Early immigration along parallel lines.

Internal improvements.

## **FOURTH DAY.**

### *Period of Statehood.*

#### (a.) Agitation for Statehood.

Prominent men of this period.

Difficulties encountered in efforts for Statehood.

Objections offered.

Date of admission.

Establishment of banks by Legislature.

"Holford Bonds."

Brief account of Political Parties.

Growth in wealth and population.

#### (b.) Mexican War.

Number of men enlisted from Arkansas.

Names of those gaining special distinction in the war and in what battles.

#### (c.) Civil War.

Act of Secession.

Requisition for quota of troops refused.

Number of men enlisted from Arkansas.

Names of those gaining special distinction in the war.

Battles that took place in the State and location of same on outline map.

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## **FIFTH DAY.**

### *Period Since the War.*

Rapid development of the State along industrial and financial lines after the close of the war.

Brief account of Brooks-Baxter War.

Constitution of 1874.

Prominent men and statesmen of this period, their lives and services.

The last quarter of a century's growth and progress of the State, as to population and wealth, agriculture, trade, industries, education.

# ALGEBRA

By G. W. Droke, Professor of Mathematics, University of  
Arkansas.

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## FIRST DAY.

### 1. Preliminary

#### (a) Numbers and signs.

Simple scale of positive integers.

Introduction of negative numbers.

Explain and illustrate the use of letters for numbers. 68 means  $60+8$ . 3rt means  $3 \times r \times t$ .

What is the value of  $7ad-3cx+k$  if  $a=2$ ,  $d=7$ ,  $c=3$ ,  $x=5$ ,  $k=9$ .

#### (b) Definitions. Do not attempt to give all the definitions you may need in elementary algebra, but those which the student should understand from the first; such as expression, term, factor coefficient, exponent, etc.

#### (c) Fundamental properties.

1.  $a+b=b+a$ .

2.  $a \times b=b \times a$ .

3.  $a+(b+c)=(a+b)+c$ .

4.  $a \times (b \times c)=(a \times b) \times c$ .

5.  $a(b+c)=ab+ac$ , and  $a(b-c)=ab-ac$ .

By some authors these properties are called *axioms* because they are merely assumed to be true.

#### (d) The following principles should be carefully explained and illustrated.

1.  $a+(-b)=a-b$ .

2.  $a-(-b)=a+b$ .

3.  $a-b=-(b-a)$ .

4.  $\frac{a+b}{c}=\frac{a}{c}+\frac{b}{c}$ , and  $\frac{a-b}{c}=\frac{a}{c}-\frac{b}{c}$ .

State each principle in English.

Simplify each of the following:

1.  $a-b-(c-d)$ .

2.  $x-(y-z)-(r+s)$ .

3.  $a+(3a-b)-(2c+3a)-b$ .

4.  $[5ab-(2ab+3xy)]+6xy$ .

2. Introduction of simple equations. Definitions. Problems  
 Example. The sum of two numbers is 25, their difference is 7. What are the numbers.

## SECOND DAY.

### Multiplication and Division

#### (a) Exponents.

1.  $2 \times 2 = 2^2 = 4$ .
2.  $3 \times 3 \times 3 \times 3 = 3^4 = 81$ .
3.  $b \times b \times b \times b \times b = b^5$ .

Multiply the following:

1.  $3^2 \cdot 5^3 =$
2.  $x^3 \cdot y^4 =$
3.  $5^m \cdot 5^n =$
4.  $(a+b)^3 \cdot (a+b)^2 =$
5.  $x^{c-d} \cdot x^{a-c} =$

State the following theorems in English and then give the proof, the letters used as exponents denoting positive integers:

1.  $a^m \times a^n = a^{m+n}$ .
2.  $a^m \div a^n = a^{m-n}$ .
3.  $(a^m)^n = a^{mn}$ .

#### (b) Define rational integral factor, prime number, identical equation, or an identity.

There are a few useful identities which should be committed to memory; namely,

1.  $(a+b)^2 = a^2 + 2ab + b^2$ .
2.  $(a-b)^2 = a^2 - 2ab + b^2$ .
3.  $(a+b)(a-b) = a^2 - b^2$ .
4.  $(x+a)(x+b) = x^2 + (a+b)x + ab$ .
5.  $(a+b)(a^2 - ab + b^2) = a^3 + b^3$ .
6.  $(a-b)(a^2 + ab + b^2) = a^3 - b^3$ .

The following types of division of binomials are noteworthy:

$$1. \frac{a^2 - b^2}{a + b} = a - b \text{ and } \frac{a^2 - b^2}{a - b} = a + b.$$

$$2. \frac{a^2 + b^2}{a + b} \text{ and } \frac{a^2 + b^2}{a - b} \text{ will not give integral quotients.}$$



$$3. \frac{a^3-b^3}{a-b} = a^2+ab+b^2$$

$$4. \frac{a^3+b^3}{a+b} = a^2-ab+b^2$$

$$5. \frac{a^3-b^3}{a+b} \text{ and } \frac{a^3+b^3}{a-b} \text{ will not give integral quotients.}$$

These five types call attention to the following principles

I. Difference of even powers is divisible by sum or difference of numbers.

II. Sum of even powers is divisible by neither sum nor difference of numbers.

III. Difference of odd powers is divisible by difference of numbers.

IV. Sum of odd powers is divisible by sum of numbers

Note that such expressions as  $a^6+b^6$ ,  $1+x^{10}$ ,  $64+y^6$ , etc are divisible by  $a^2+b^2$ ,  $1+x^2$ ,  $2+y^2$ , etc., according to IV

Thus:  $x^6+y^6 = (x^2)^3 + (y^2)^3 = (x^2+y^2)[(x^2)^2 - x^2y^2 + (y^2)^2]$   
 $= (x^2+y^2)(x^4 - x^2y^2 + y^4).$

Divide  $a^5+b^5$  by  $a+b$ , and  $a^5-b^5$  by  $a-b$ .

Observe the following general facts about these quotients:

1. The coefficient of each term is one.

2. The exponent of the leading letter is one less than the exponent in the dividend and decreases by one in each succeeding term.

3. The exponent of the second letter in the first term of the quotient is zero and increases by one in each succeeding term.

4. If the signs of the divisor are positive, the signs of the quotient are alternately positive and negative. Otherwise all signs of quotient are positive.

Multiply:

$$1. ax^{n-1} + y^{n-1} \text{ by } 3ax^{n-1} + 2y^{n-1}.$$

$$2. a^{6n} + a^{4n}b^{2c} + a^{2n}b^{4c} + b^{6c} \text{ by } a^{2n}b^{2c}.$$

Divide:

$$1. m^{10} - 6m^3 + 5m - 2 \text{ by } 2m^3 - 2 + m^4 - 3m.$$

$$2. 127a^3 - 20a + a^7 - 100a^2 + 16 - 160a^4 \text{ by } a^3 - 6a^2 + 5a - 4.$$

### THIRD DAY.

Factoring.

Find the factors of:

1. 24.
2. 36.
3.  $m^2n^3$ .
4.  $5x + 15xy$ .
5.  $7a^2mn - 14an^2p + 21a^3n^2y$ .
6.  $am - bm + ax - bx$ .
7.  $4x^2 + 12xy + 9y^2$ .
8.  $9a^2 - 6ab + b^2$ .
9.  $m^2 - 5m + 4$ .
10.  $x^2 - 3x - 88$ .
11.  $a^2 + b^2 - m^2 - n^2 + 2ab - 2mn$ .
12.  $x^2 - y^2 - z^2 + 2yz$ .
13.  $a^4 + a^2b^2 + b^4$ .
14.  $16x^4 + 39x^2y^2 + 25y^4$ .

- (a) Highest Common Factor. Abbreviation H. C. F.  
Define common factor; highest common factor.

Find the common factors of:

1. 48, 84, 126.
2.  $18a^3b^2mn$ ,  $30a^2b^3m^2n$ .

Find the H. C. F. of:

1.  $x^2 + 2x + 1$ ,  $3x + 6x^2 + 3x^3$ .
2.  $a^2 - 13a + 42$ ,  $a^3 - 216$ ,  $a^2 - a - 30$ .
3.  $3x^5 + 9x^4 - 3x^3$ ,  $5x^2y^2 + 15xy^2 - 5y^2$ ,  $7ax^2 + 21ax - 7a$ .
4.  $x^2 - (y + z)^2$ ,  $(y - x)^2 - z^2$ ,  $y^2 - (x - z)^2$ .

- (b) Lowest Common Multiple. Abbreviation L. C. M.  
Define common multiple; lowest common multiple.

Find the L. C. M. of:

1.  $15(yz - z)$ ,  $35(y^4z - yz)$ .
2.  $p^3 + 64$ ,  $p^2 + p - 12$ .
3.  $h^4 + h^2d^2 + d^4$ ,  $h^3 + d^3$ ,  $h^3 - d^3$ .

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### FOURTH DAY.

Fractions.

- (a) Definitions.
- (b) Reduction to lowest terms.  
There are three important signs to be considered; the sign of the numerator, that of the denominator that in front of the whole fraction. Of these three

important signs any two may be changed at the same time, without changing the value of the fraction.

$$\text{Thus: } -\frac{3a+5b}{2a-b} = +\frac{3a+5b}{-(2a-b)} = +\frac{-(3a+5b)}{2a-b} = -\frac{3a+5b}{2a-b}$$

Simplify:

$$\begin{aligned} 1. & \frac{-1}{-(-1)} \\ 2. & \frac{x-1}{3} - \frac{x-2}{18} - \frac{4x-3}{27} + \frac{1-x}{6} \end{aligned}$$

Reduce the following mixed expressions to fractions:

$$\begin{aligned} 1. & a - \frac{a^2-ab}{b} \\ 2. & a - \frac{a-b-c}{2} \\ 3. & 3x + \frac{5}{ax} - (2x + \frac{3}{ax}) \\ 4. & 1 - (a - \frac{a^2}{1+a}) \end{aligned}$$

Define reciprocal of a number, complex fraction.

Write the reciprocal of:

$$\begin{aligned} 1. & \frac{1}{4} \\ 2. & \frac{a}{3} \\ 3. & \frac{4}{ab} \\ 4. & \frac{1}{x} + \frac{a}{b}, \text{ in simplest form.} \end{aligned}$$

Simplify:

$$1. \quad \frac{\frac{1}{x} + \frac{1}{y+z}}{\frac{1}{x} - \frac{1}{y+z}}$$

$$2. \quad \frac{x-2 + \frac{1}{x+2}}{x+2 + \frac{1}{x-2}}$$

$$3. \quad \left( \frac{m-3n}{m+n} \right) \left( 1 + \frac{4n}{m+n} \right) \div \left( \frac{m}{n} + 2 - \frac{15n}{m} \right)$$

Fractional equations.

Solve the following equations for the unknown quantities:

$$1. \quad \frac{x-1}{2x+1} = \frac{x+3}{2x+12}$$

$$2. \quad \frac{m^2+4}{2m} = \frac{m+1}{2}$$

$$3. \quad \frac{3t+2}{t+5} - \frac{2t+14}{2t+1} = 2$$

A steamboat is making 6 miles an hour against the wind on a journey of 30 miles. At a distance of 10 miles after starting the wind ceases. The whole trip occupies 3 hours and 40 minutes. How many miles per hour does the wind retard the boat?

### FIFTH DAY.

Simultaneous Linear Equations.

Define linear equations: simultaneous linear equations, elimination.

Solve:

$$1. \quad \begin{aligned} 4x + 5y &= 2. \\ 5x + 4y &= 2. \end{aligned}$$

$$2. \quad \begin{aligned} 4k - 3r &= 1. \\ 6r - 2k &= 1. \end{aligned}$$

3.  $an + bm = 0$ .  
 $am - bn = 1(m^2 + n^2)$ . (For  $a, b$ .)
4.  $2x - 3y + 5z = 15$ .  
 $x + 2y - z = 4$ .  
 $5x - y + 3z = 19$ .
5.  $p + q + r = 7$ .  
 $p + 2q + 3r = 10$ .  
 $2p + 3q + 6r = 15$ .
6.  $y + z - 3x = a - b - c$ .  
 $z + x - 3y = b - c - a$ .  
 $x + y - 3z = c - a - b$ . (For  $x, y, z$ ; also for  $a, b, c$ .)

$$7. \frac{4}{x} + \frac{3}{y} = \frac{9}{8}$$

$$\frac{3}{x} + \frac{4}{y} = \frac{11}{12}$$

$$8. \frac{1}{x} + \frac{1}{y} = 6$$

$$\frac{1}{y} + \frac{1}{z} = 10$$

$$\frac{1}{z} + \frac{1}{x} = 8$$

9. The weight of a quantity of naphtha and petroleum was 12,400 pounds. Each gallon of naphtha weighed  $5\frac{3}{4}$  pounds and cost  $6\frac{1}{4}$  cents; each gallon of petroleum weighed  $6\frac{1}{2}$  pounds and cost  $7\frac{1}{2}$  cents. If the sum paid for the total quantity was \$145, how many gallons were there of each product?

Note—Hedrick's Algebra for Secondary Schools is an excellent reference text. American Book Company.





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